

Superb Air

DENTAL AIR SYSTEM

Installation and Operation Manual



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CONGRATULATIONS

Your Superb Air generates 100% oil-less, ultra-dry dental air which protects valuable handpieces from premature failure because of moist air and the build-up of oil residue. Because no oil is used for mechanical lubrication, there is no chance of introducing an oily film to a prepared surface which could compromise resin retention and restorations, wasting chair time. Most importantly, your patient's health is protected with dry air that provides an environment that is not conducive to bacterial growth.

The Superb Air utilizes oil-free compressors from 0.75 kW up to 5kW. They are extremely quiet while operating at around 65 dB. These oil-free compressors are the ideal choice for applications where oil-free compressed air and silence are required.

Dryer System consists of the cooler and the membrane. This system removes moisture and air impurities providing the driest possible compressed air while maximizing performance. All dry air is reserved in the main storage tank for use by the operator.

The Super Air features include:

- Virtually Maintenance Free
- Low-Pressure Dew Point
- Uninterrupted Compressor Availability
- Maximum Dryness with Quadruple Filtered Air
- Compact size for space-saving installation

SAFETY INSTRUCTIONS

Use of the Superb Air not in conformance with the instructions specified in this manual may result in permanent failure of the unit.

This product is manufactured to high-quality standards, and they are safe and fit for purpose at the time of sale, but all tools can be dangerous if the correct precautions are not taken.

Warning!

When using compressors, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.

Read all these instructions before attempting to operate this product.

Keep these instructions with the compressor.

Save these instructions for future reference.

Personal Safety

Symbols used on the air compressor.



Read the operator's instructions



Warning Shock Hazard



Warning High-temperature parts



Warning The compressor is automatic and can start unexpectedly

KEY PARTS IDENTIFICATION



Figure 1. Superb Air Parts Location



Figure 2. Superb Air Parts Location

SIZING GUIDE

Choosing the correct size Superb Air for your practice depends on the number of users and the anticipated air demands. For optimum compressor operation, the air demands should not exceed the number of air operatory users shown in the table below.

Model	Recommended Number of Users	Number of Heads	Number of Motor
DC8112	1	1	1
DC8122	1	1	1
DC8124	3	1	1
DC8226	5	2	2
DC8228	7	2	2

Model	Voltage	Amps	Frequency	Breaker Size	Noise level	Tank Size	H.P.
DC8112	110V AC	14	60Hz	20A	60dBi	10 Gallon	1
DC8122	230V AC	7	60Hz	20A	60dBi	10 Gallon	1
DC8124	230V AC	15	60Hz	20A	60dBi	10 Gallon	2
DC8226	230V AC	22	60Hz	30A	60dBi	23 Gallon	3
DC8228	230V AC	30	60Hz	40A	60dBi	30 Gallon	4

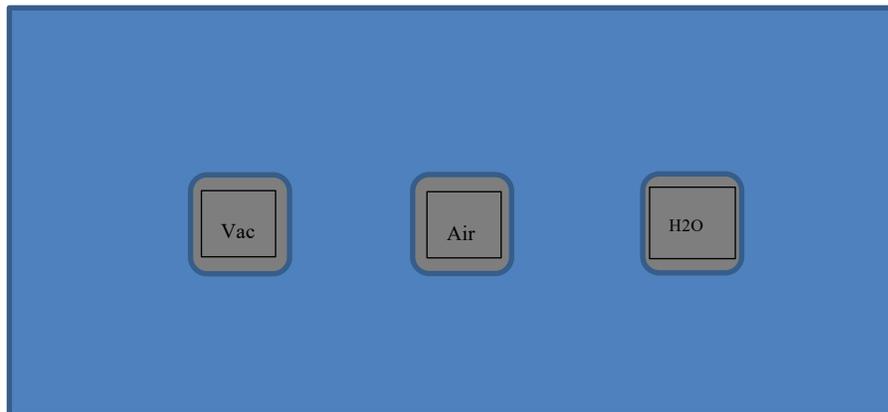
OPERATING INFORMATION

8112, 8122, 8124, 8226, 8228

- If a remote-Control Panel is being used, the main power switch needs to remain in the “on” position. The pressure relief switch also needs to remain in the “on” position.
- The 24-volt circuit breaker will automatically engage when the main power switch is turned “on”.
- Connect the control panel to the control wires on the compressor. Match the color of the connection to the color. If using an extension, mark the connections on both ends so that the colors always match at the final connection points.



- If a Remote-Control Panel is not being used, be sure that the Blue and the Red wire are connected. These wires are located directly below the green power switch on the face panel. The white wire should remain capped.



SITE REQUIREMENTS

Service Clearance:

Allow 12" on all sides for all models

Ambient Temperature:

Must not exceed 105°F

Air System Plumbing Connection:

3/8" F N PT Shut-off valve and a 6 ft pressure hose (supplied)

Air distribution piping for all models - 1/2", type "L" or type "K" copper

If the pipe volume is too great, more than 235 in³ or more than 100 ft of 1/2" diameter pipe, a pressure regulator should be installed between the main tank and the distribution piping Set pressure to pressure switch cut in value (factory set at 85 PSI)

Environmental:

Operating

Indoor use at altitudes up to 2000m Temperature 5 to 40°C (41 to 105°F)

Supply voltage fluctuation of +/- 10% of nominal voltage

Storage and Transport:

Temperature, -18 to 65°C (0 to 150°F)

Relative Humidity, 0 to 90%

IEC 60601-1 Classification:

Protection against electric shock (5 1, 5 2):	Class I
Applied Parts:	There are no Applied Parts
Protection against harmful ingress of water (5 3):	Ordinary, IPX0
Degree of safety in the presence of flammable anesthetics mixture with air or with oxygen with nitrous oxide (5 5):	Not suitable

SETTING UP THE COMPRESSOR

Important:

Use the compressor only for the purpose for which it was designed.

The compressor is designed for use under its airflow capacity; do not attempt to use it exceeding its technical specifications. The manufacturer assumes no responsibility for any damages resulting from improper use or non-compliance with the instructions described in this manual.

The compressor is for use by competent persons only.

Before Operation

Check package contents Check for damage

Before using this item check each part is undamaged. Check all pipes are firmly connected. Inspect the air receiver (tank) to ensure that it has not been damaged.

Save packaging

Save major packaging for the return of product in the event of service or repair.

Electrical supply

Before using the air compressor, please check that you have a suitable electrical supply to support the requirements of the motor unit. Please ensure your mains power supply corresponds to the power rating on the data label on the machine.

Electrical Cables

Verify that all cables are damage free before connecting to the power supply.

Using extension cables

Use an extension cable, which is no more than 10metres long and has a conductor cross-section of at least 1.5mm² i.e. a heavy-duty cable. Using an excessively long or thin-wired extension cable will cause severe damage to the motor. Always fully unwind extension cables. If using extension cables outdoors always use a cable, which is marked for outdoor use.

Always maintain a clear area around the compressor

The compressor must be positioned so that there is adequate airflow around the machine. The compressor should be situated so that it has 50cm of obstacle-free space around its air receiver (tank) and pump/motor unit.

Ensure that the compressor draws clean air

For the correct function and longevity of your air compressor, the air, which is drawn into the compressor must be clean. The compressor should not be used in an area, where the air is contaminated with dust.

Place the compressor on flat ground

Ensure that the compressor is placed on the ground, which is flat and does not have an incline greater than 15°. If the compressor is placed at an angle greater than 15° in any direction, damage to the pump unit will result.

Do not operate the compressor without the air filter installed.

Operating the compressor without the air filter will cause severe damage to the pump unit.

Cleaning

Clean the items with a soft brush or a wiper moistened with a suitable biodegradable solvent. Do not use inflammable liquids like petrol or alcohol, they are a fire risk and will damage the finish and plastic parts. Ensure that the cooling fins on the pump body are kept clean. Fins, which are heavy with dust, have poor cooling properties and the compressor will overheat and damage will occur.

Faults

Have the air compressor repaired by a qualified service technician.

Use only genuine replacement parts, which are available from the authorized dealer or distributor. Do not use modified or non-genuine parts

Maintain air compressor with care

Keep the air compressor clean for better and safer performance.

Follow instructions for changing accessories.

Inspect the air compressor and extension cables/hoses occasionally; have them repaired by a qualified person or authorized service body.

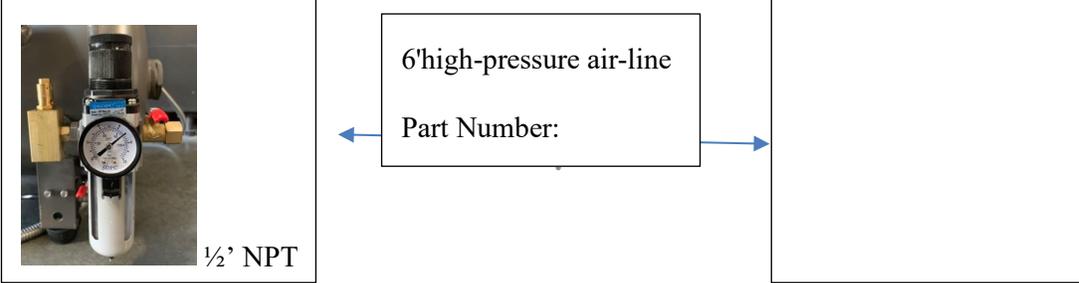
Check for damaged parts.

Do not use the air compressor with damaged parts, before further use a damaged air compressor must be carefully checked by a qualified person to determine that it will operate properly. Check for breakage of parts, mountings, and other conditions that may affect its operation. An authorized service center should properly repair a damaged part unless indicated in the instruction manual.

INSTALLATION, TEST, AND OPERATION

(1) Installation

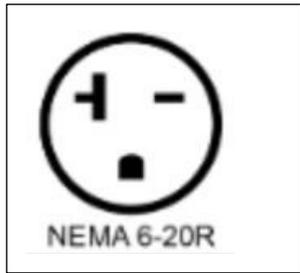
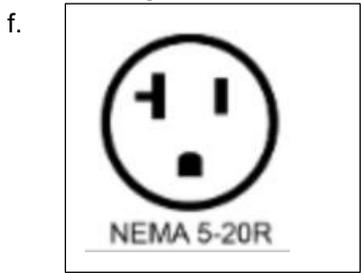
- a. The machine should be operated in a room with a temperature of 5-40°C. The surrounding area of the machine should be clean, dry, free of corrosive gas, and well-ventilated.
- b. After unpacking check the machine for any missing parts and damages, check accessories and spare parts, and the technical documentation supplied together with the machine according to the packing list.
- c. Connection of air pipes: connect the air supply pipe with the quick coupling.



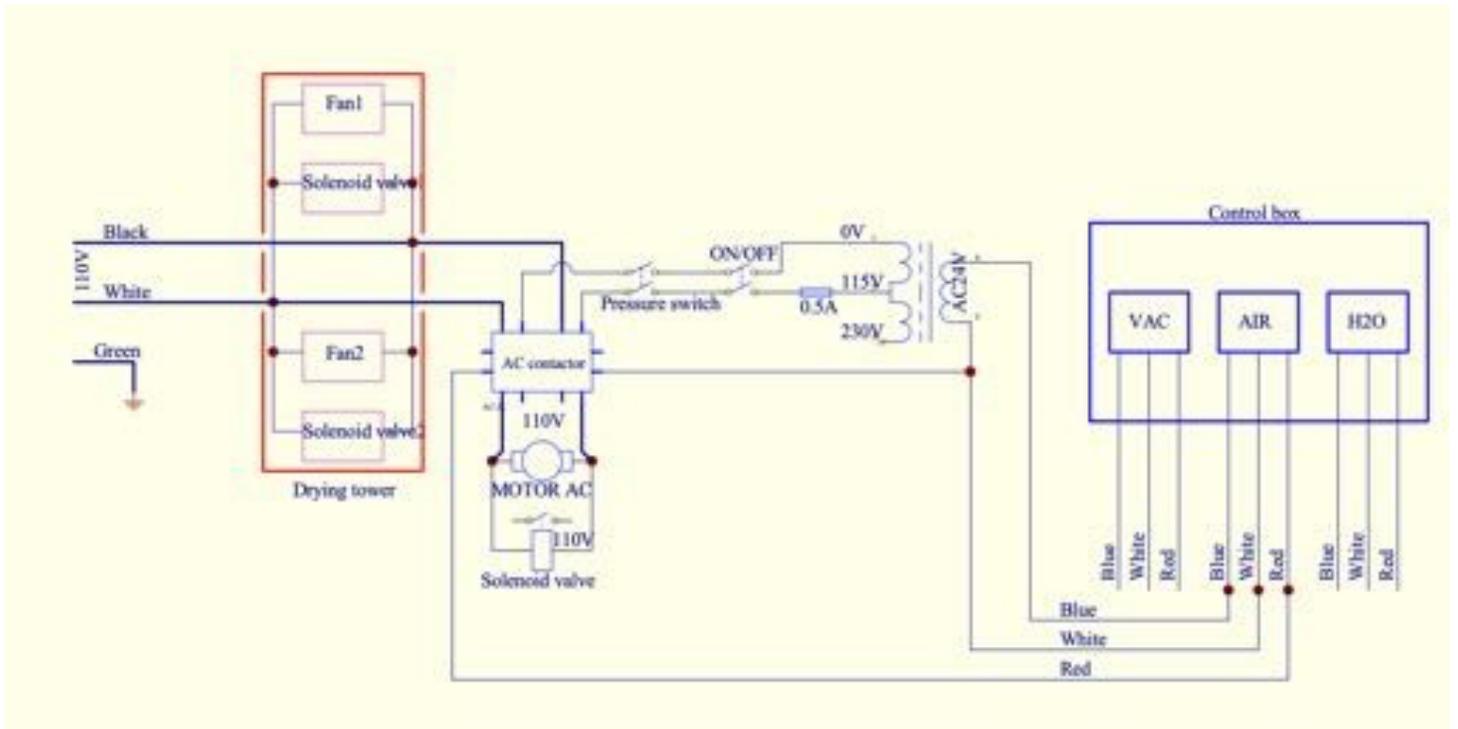
- d. Check if the drainage valve is off and the pressure switch is at the position of "off"(Switch off position)



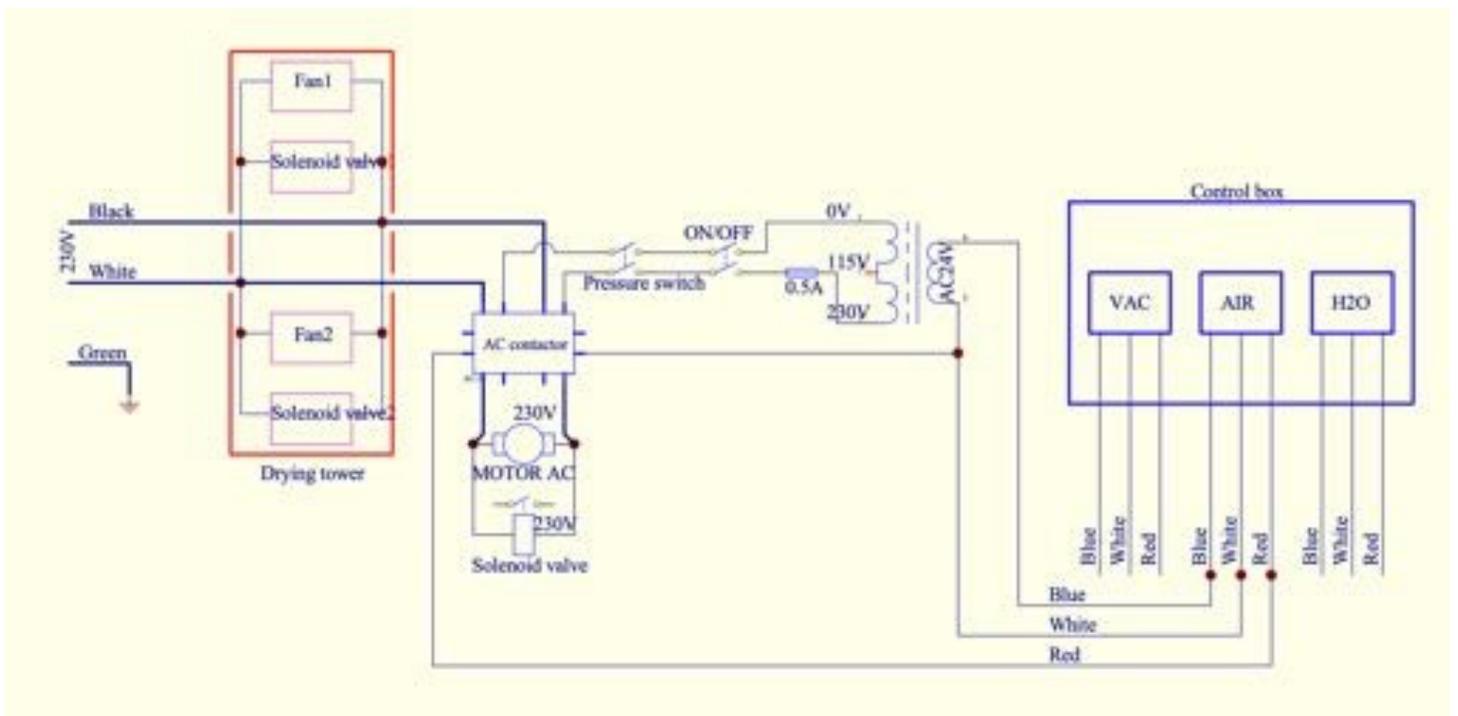
- e. Electrical connection: All electrical connections must follow local codes. If using a plug, it must be a NEMA type 5-20 for 110V and 6-20R for 220V. You may also Hard wire the compressor directly to a suitable power supply following local codes.



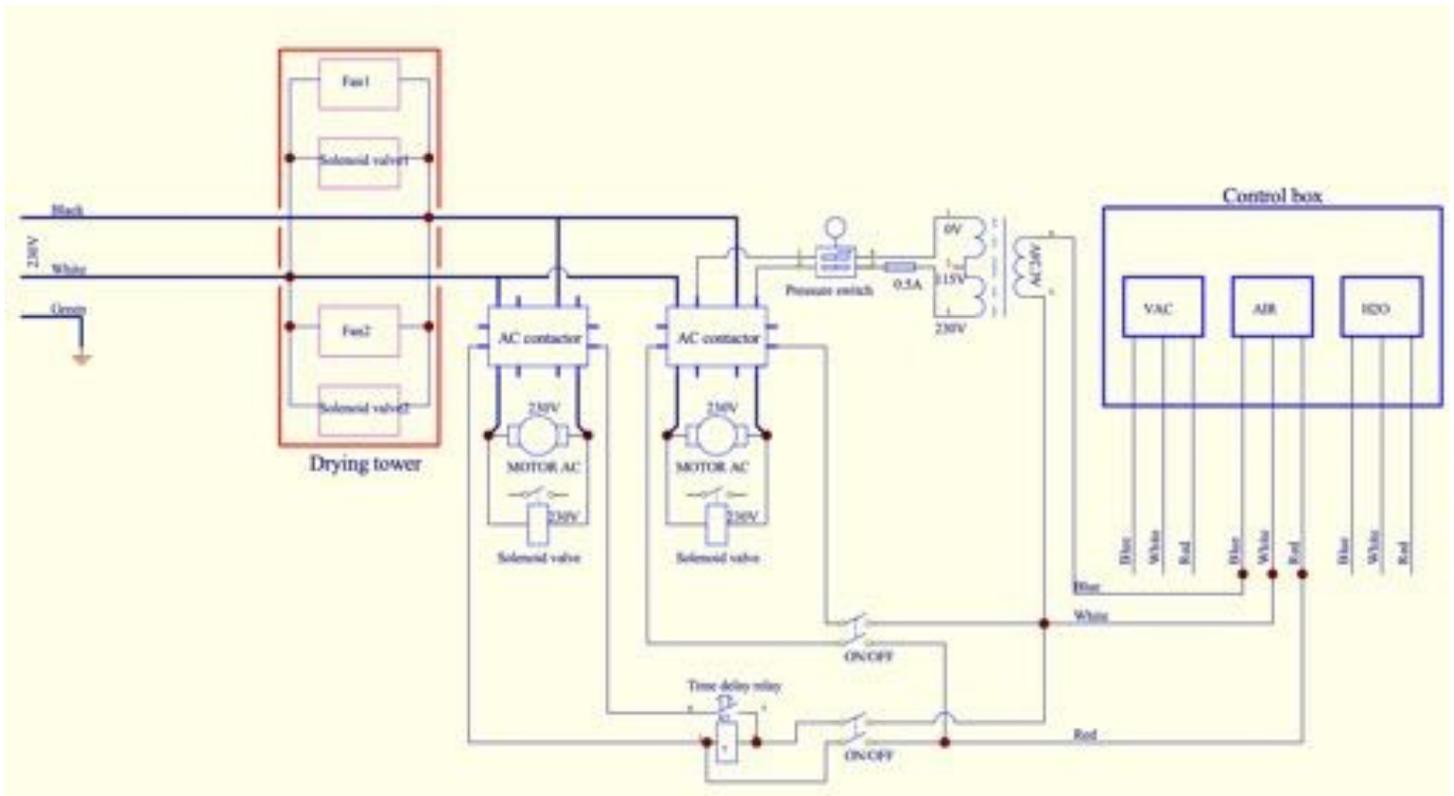
Single Head 110V



Single Head 230V



Twin Head 230V



(2) Test run the machine

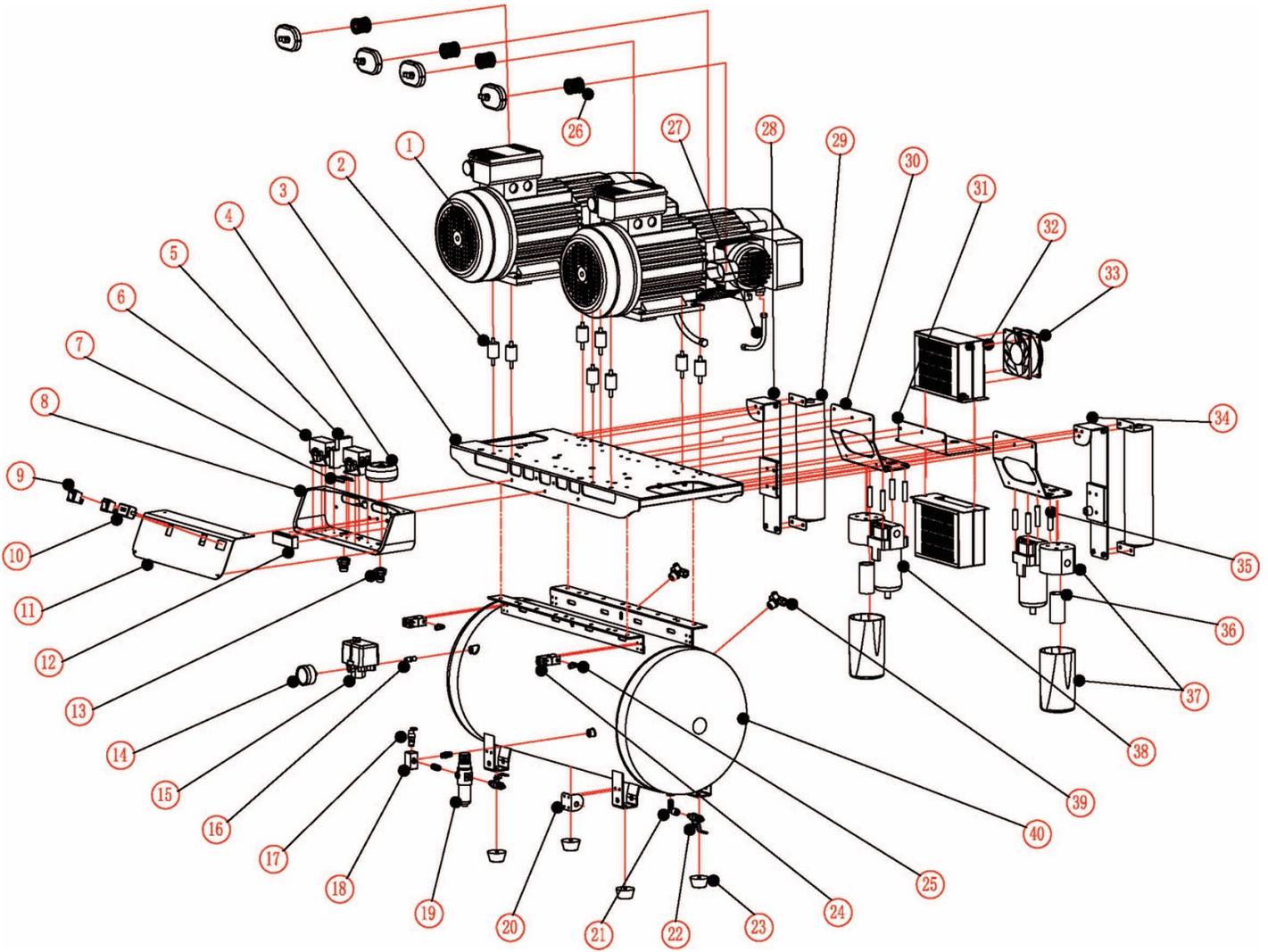
- Close the drain valve and air supply valve. Check if the reading of the pressure gauge is below 6 bar (87psi). Turn the operation handle of the pressure switch to "ON" and the machine will start immediately. The reading of the pressure gauge will slowly rise with increasing pressure inside the air tank. When the reading of the pressure gauge reaches 8 bar (116 psi), the pressure switch activates, the power supply is cut off, and the machine stops running. At the same time, the solenoid valve activates to release high pressure in the cylinder of the compression machine so that the machine can be started again.
- During the period when the machine stops running observe if the reading of the pressure meter is decreasing. If there is no leakage of air in the machine, open the air supply valve to begin the supply of compressed air. When the pressure in the air tank decreases to 6 bar, the pressure switch resets and the power supply resumes, the machine starts running again. The pressure in the air tank increases again. If the machine can automatically stop and start, the machine works normally.
- Turn the operation handle for the pressure switch to the "off" position (Switch off position), then pull out the plug of the machine. The test run is completed.

(3) Operation

- To operate our oil-free air compressor correctly and safely carefully read the operation manual.
- Insert the plug of the machine in the power socket of single-phase 10A/16A/20A. Open the ball valve and turn the operation handle for the pressure switch to the "ON" position, the machine will run in a normal condition.

Note: When selecting this series of oil-free air compressors suitable type of air compressor should be chosen based on air consumption

Parts List:



No.	Description	Part Number
1.	110v 60 Hz single cylinder head 220v 60Hz single cylinder head 220v 60Hz Twin cylinder head	DC-RP-110v DC-RP-220V DC-RP-220V-T
2.	Motor shock absorbers	DC-RP-2
3.	Accessories mounting plate	DC-RP-3
4.	26v transformer 115v / 230v input	DC-RP-4
5.	Solid state timer 24Vac-230Vac	DC-RP-5
6.*	Low voltage 24v relay	DC-RP-6
7.	Mounting bracket	DC-RP-7
8.	Control panel housing "Dual SW" Control panel housing "Single SW"	DC-RP-8-D DC-RP-8-S
9.*	Main power switch	DC-RP-9
10.	Hour counter	DC-RP-10
11.	Control panel cover "Dual" Control panel cover "Single"	DC-RP-11-D DC-RP-11-S
12.	4 Position terminal block	DC-RP-12
13.	Cord Grip	DC-RP-13
14.	Pressure Gauge	DC-RP-14
15.*	Pressure control switch	DC-RP-15
16.	Union	DC-RP-16
17.	Emergency pressure relief valve	DC-RP-17
18.	3 port dist. Block	DC-RP-18
19.*	Regulator / Filter assembly 5 micron filter *	DC-RP-19 DC-RP-19-F
20.	Bracket for tank drain valve	DC-RP-20
21.	90 degree elbow "Drain valve"	DC-RP-21
22.*	Drain valve	DC-RP-22

23.	Tank rubber absorbent legs	DC-RP-23
24.*	Pressure relief solenoid 24V Pressure relief solenoid 220V	DC-RP-24-24 DC-RP-24-220
25.	90 degree elbow	DC-RP-25
26.*	Motor inlet air filter	DC-RP-26
27.	Braided hose from motor to dryer	DC-RP-27
28.	Desiccant tank bracket (L)	DC-RP-28
29.	Desiccant Tank	DC-RP-29
30.	Filter bracket	DC-RP-30
31.	Air cooler bracket	DC-RP-31
32.*	Cooler	DC-RP-32
33.*	Cooling fan 110V * Cooling fan 220V *	DC-RP-33-110V DC-RP-33-220V
34.	Desiccant tank bracket (R)	DC-RP-34
35.	Filter offset spacer	DC-RP-35
36*	Coalescing filter	DC-RP-36
37	Coalescing filter body	DC-RP-37
38*	Coalescing filter	DC-RP-38
39*	Check Valve	DC-RP-39
40	Tank 10 gallon Tank 16 gallon Tank 23 gallon Tank 30 gallon	DC-RP-40-10G DC-RP-40-16G DC-RP-40-23G DC-RP-40-30G

INSTALLATION INFORMATION

Superb Air is to be installed by an authorized TPC dealer or service technician. Please review these installation guidelines to make sure that your Superb Air works to capacity for your office.

Your Superb Air should be installed in a well-ventilated area, with at least 12-inch clearance on each side for service access and to prevent overheating during high-demand periods. If other equipment is in the vicinity, the ambient temperature of the area must not exceed 105°F.

Note: If the voltage is higher than 132V/242V, install a bucking transformer.

MINIMUM VOLTAGE: The minimum voltage for a DC8112 or DC8124 is 110 Volts. The minimum voltage required for a DC8224, DC8226, and DC8228 is 220 Volts. Install a boost transformer if the service is below these ratings.

WIRING REQUIREMENTS: To help prevent fire, electric shock, injury, or death, the wiring and grounding must conform to the latest edition of the National Electrical Code, ANSI/NFPA 70 and all applicable local regulations. Please contact a qualified electrician to check your wiring and breakers/fuses to ensure that there is adequate electrical power to operate the Superb Air.

EQUIPMENT GROUNDING: Superb Air must be connected to a grounded metal, permanent wiring system, or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding lead in the Superb Air flexible metal conduit power supply. Failure to do so can result in fire, electric shock, injury, or death.

Make Sure Everything Is Running Properly after your Superb Air has been installed and before it is put into operation, be sure to follow the check-out procedure detailed below. Check that Intake filter(s) are fully seated into the compressor head(s) and that the Tank Outlet Valve is closed.

Turn on the electricity. Check the incoming line voltage. It should be at least 110 Volts for the DC8112 and DC8124; and 220 Volts for the DC8224, DC8226 and DC8228.

This voltage should remain at or above these levels while the Superb Air is running. If not, install the appropriate boost transformer and check that the correct main circuit breaker and wire size are being used.

Drain the storage tank to 75 PSI and determine the recovery time from 75 to 105 PSI. Time should take approximately 1 min.

Drain the storage tank completely to 0 psi and it should take approximately 3 min to go from 0 to 105 psi.

TROUBLESHOOTING

FAULT	PROBABLE CAUSE	REMEDY
Pressure Drop in the tank.	Air leaks at connections	Let the compressor build pressure in the tank; to the maximum pressure if possible. Brush soapy water on air connections and look carefully for air bubbles. Tighten leaking connections. If the problem persists, contact a service technician.
The solenoid valve leaks when the compressor is idle.	Check valve seal is defective.	Let the air in the tank flow out until all the pressure is released. Then remove the check valve plug and clean the valve seat. If necessary, replace the seal and then re-mount all the components.
The compressor stopped and does not start.	Overload cut-out operated because of motor overheating.	Check that the mains voltage corresponds to specifications. An extension cable, which is too thin, and too long can cause a voltage drop and cause the motor to overheat. Leave to cool down. Use heavy-duty extension cables. Ensure that the compressor is plugged into a socket near the consumer unit/ fuse box as possible.
	Motor Winding burnt out	Contact the help-line
The motor does not start and makes a humming noise	Capacitor burnt out	Replace the start capacitor.
The motor does not start or start slowly.	The low voltage supply to the motor.	Check that the mains voltage corresponds to specifications. An extension cable, which is too thin, and too long can cause a voltage drop and cause the motor to overheat. Leave to cool down. Use heavy-duty extension cables. Ensure that the compressor is plugged into a socket as near to the consumer unit/ fuse box as possible.
The compressor is noisy with metallic clangs.	The compressor head gasket is broken or the valve is faulty.	Stop the compressor and contact the dealer.
The compressor does not reach the maximum pressure.	The compressor head gasket is broken or the valve is faulty.	Stop the compressor and contact the dealer.
The compressor doesn't seem to provide as much air as it did when new and the compressor cuts off within a much shorter period.	The pressure switch needs adjusting.	Stop the compressor and contact the dealer.
The compressor doesn't seem to provide as much air as it did when the new compressor cuts off within a much shorter period.	The tank is full of water due to condensation.	Open the ball valve and release the pressure. Open the drain valve and release the water within the tank. Repeat cycles as needed to drain the tank.
The motor pump unit does not stop when the tank pressure reaches its maximum working pressure (105PSI) and the safety valve vents air.	The pressure switch is defective or needs adjusting.	Stop the compressor immediately and contact a qualified service technician.

MAINTENANCE

Like all precision products, your Superb Air requires a certain amount of care on a regularly scheduled basis. A well-organized maintenance program aids dependable equipment operation and reduces problems to a minimum. Routine checks help to detect general overall wear, and replacement of parts can often be made before a problem occurs. Understanding this, we have established minimum maintenance requirements listed below that include routine inspections and the replacement of filters using preventive maintenance kits available for the specific Superb Air model. Adherence to this recommended maintenance schedule will ensure that the equipment will continue performing at its best with uninterrupted service.

Routine Inspection - Monthly

Clean exterior surfaces

Check for abnormal noises and air leaks

Make sure that no flammable, corrosive, or combustible materials are stored in the equipment room (especially in the area around the equipment)

Check the operational range of the pressure switch is between 75 - 105 psi

Note: To comply with NFPA 99C, a 5-micron Filter is installed on the output of all Superb Air models

Routine Inspection - Yearly

Refer to the figures below and check the Service Indicator on the 5-micron Outlet Filter. Red indicates that the filter must be replaced P/N: DC-RP-36



Good filter Indicator



Change filter element

Green= No service is required.

Yellow= Prepare to replace filter soon.

Red= Replace filter element.

WARRANTY

All our products sold are guaranteed to be free from defects in workmanship and materials for 5 years on the compressor head, 3 year warranty on all other components with an hour count of less than 3,500 hours. TPC will repair or replace any defective part at no charge. TPC will not be responsible for labor charges or shipping charges to/from the TPC facility. This guarantee does not cover normal wear or stains on the surface finish. The guarantee does not cover damage resulting from improper installation, misuse, or accidents incurred in shipping and handling. All claims against the freight carrier must be initiated at the time the damaged items are received. The claim is the responsibility of the customer. We are improving our products continuously. We reserve the right to make modifications without the need for prior notification and are not obliged to modify previously manufactured items. Filters are not covered under any type of warranty.